WHAT IS CLAIMED IS:

1. A method of inducing angiogenesis in a tissue of a first mammal, the method comprising the step of implanting at least one micro-organ within the tissue of the first mammal, said at least one micro-organ being for producing a plurality of angiogenic factors and thereby inducing angiogenesis.

2. The method of claim 1, wherein said at least one micro-organ is derived from organ tissue of a second mammal.

3. The method of claim 2, wherein the first mammal and said second mammal are a single individual mammal.

4. The method of claim 2, wherein said organ is selected from the group consisting of a lung, a liver, a kidney, a muscle, a spleen a skin and a heart.

5. The method of claim 1, wherein said at least one micro-organ includes two or more cell types.

6. The method of claim 1, wherein the first mammal is a human being.

7. The method of claim 1, wherein said at least one micro-organ is cultured outside the body for at least four hours prior to implantation within the tissue of the first mammal.

8. The method of claim 1, wherein said at least one micro-organ is prepared so as to retain viability when implanted within the tissue of the first mammal.

9. The method of claim 8, wherein said at least one micro-organ has dimensions, such that cells positioned deepest within said at least one micro-organ are at least about 100 micrometers and not more than about

225-350 micrometers away from a nearest surface of said at least one micro-organ.

10. The method of claim 1, wherein each of said plurality of angiogenic factors posses a unique expression pattern within said at least one micro-organ.

11. The method of claim 1, wherein at least a portion of cells of said at least one micro-organ include at least one exogenous polynucleotide sequence selected for regulating angiogenesis.

12. The method of claim 11, wherein said at least one exogenous polynucleotide sequence is integrated into a genome of said at least a portion of said cells of said at least one micro-organ.

13. The method of claim 12, wherein said at least one exogenous polynucleotide sequence is designed for regulating expression of at least one angiogenic factor of said plurality of angiogenic factors.

14. The method of claim 13, wherein said at least one exogenous polynucleotide sequence includes an enhancer or a suppresser sequence.

15. The method of claim 11, wherein an expression product of said at least one exogenous polynucleotide sequence is capable of regulating the expression of at least one angiogenic factor of said plurality of angiogenic factors.

16. The method of claim 11, wherein said at least one exogenous polynucleotide sequence encodes at least one recombinant angiogenic factor.

17. A method of inducing angiogenesis in a tissue of a first mammal, the method comprising the steps of:

(a) extracting soluble molecules from at least one micro-organ; and

(b) administering at least one predetermined dose of said soluble molecules extracted in step (a) into the tissue of the first mammal.

18. The method of claim 17, wherein said soluble molecules are mixed with a pharmaceutically acceptable carrier prior to step (b).

19. The method of claim 17, wherein said at least one micro-organ is derived from organ tissue of a second mammal.

20. The method of claim 17, wherein said at least one micro-organ is cultured at least four hours prior to extraction of said soluble molecules.

21. The method of claim 17, wherein said at least one micro-organ has dimensions, such that cells positioned deepest within said at least one micro-organ are at least about 100 micrometers and not more than about 225-350 micrometers away from a nearest surface of said at least one micro-organ.

22. A pharmaceutical composition comprising, as an active ingredient, a soluble molecule extract from at least one micro-organ and a pharmaceutically acceptable carrier.

23. A micro-organ comprising a plurality of cells, wherein at least a portion of said plurality of said cells including at least one exogenous polynucleotide sequence, said at least one exogenous polynucleotide sequence being capable of regulating expression of at least one angiogenic factor expressed in said cells.

24. The micro-organ of claim 23, wherein the micro-organ is derived from organ tissue of a second mammal.

25 The micro-organ of claim 24, wherein the first mammal and said second mammal are a single individual mammal.

26. The micro-organ of claim 23, wherein said organ is selected from the group consisting of a lung, a liver, other gut derived organs, a kidney, a spleen and a heart.

27. The micro-organ of claim 23, wherein said at least one micro-organ includes two or more cell types.

28. The micro-organ of claim 23, wherein the micro-organ has dimensions, such that cells positioned deepest within the micro-organ are at least about 100 micrometers and not more than about 225 micrometers away from a nearest surface of the micro-organ.

29. The micro-organ of claim 23, wherein said at least one exogenous polynucleotide sequence is integrated into a genome of said at least a portion of said plurality of said cells.

30. The micro-organ of claim 23, wherein said at least one exogenous polynucleotide sequence includes an enhancer or a suppressor sequence.

31. The micro-organ of claim 23, wherein an expression product of said at least one exogenous polynucleotide sequence is capable of regulating the expression of said at least one angiogenic factor.

32. A method of inducing angiogenesis in a tissue of a first mammal, the method comprising the steps of:

(a) culturing at least one micro-organ in a growth medium to thereby generate a conditioned medium;

(b) collecting said conditioned medium following at least one predetermined time period of culturing; and

(b) administering at least one predetermined dose of said conditioned medium collected in step (b) into the tissue of the first mammal to thereby induce angiogenesis in the tissue.

33. The method of claim 32, wherein said at least one micro-organ is derived from organ tissue of a second mammal.

34. The method of claim 32, wherein said at least one micro-organ is cultured at least four hours prior to collection of said conditioned medium.

35. The method of claim 32, wherein said at least one micro-organ has dimensions, such that cells positioned deepest within said at least one micro-organ are at least about 100 micrometers and not more than about 225-350 micrometers away from a nearest surface of said at least one micro-organ.

36. The method of claim 32, wherein said growth medium is a minimal essential medium.